

Dark Canyon Plateau Phase III

Project ID: 3308

Status: Current

Fiscal Year: 2016

Submitted By: N/A

Total Acres: 1,899

Project Manager: Mandy Scott

PM Agency: Bureau of Land Management

PM Office: Monticello

Lead: Bureau of Land Management

WRI Region: Southeastern

Description:

Phase III of Dark Canyon Plateau will continue to use a bullhog to thin pinyon and juniper encroaching into sagebrush ecosystems.

Location:

The project is located on the Dark Canyon Plateau within the Bureau of Land Management Monticello Field Office.

PROJECT NEED

Need For Project:

Dark Canyon Plateau has become heavily encroached with pinyon and juniper. Old chainings and prescribed burns that were seeded with crested wheatgrass have begun to fill in and have created closed canopy forests that have reduced ground cover. The plateau is considered critical elk winter range and due to the encroachment and heavy cattle use the risk of large wildland fires has increased along with water erosion and an overall decline in watershed health. The project units are within the Black Steer-Dark Canyon watershed.

Objectives:

- 1) Restore watershed health and function by reducing pinyon and juniper trees
- 2) Reducing the risk of large wildland fires
- 3) Increase sagebrush
- 4) Improve elk winter range

Pinyon/juniper forests have historically been controlled by fire frequency (Miller and Wigand 1994), but because of changes in management and use the fire return interval has greatly increased. Lack of natural disturbance along with prolong periods of drought have led to the expansion of pinyon/juniper into areas that were typically shrubland dominant. Common to the hydrology of many of these communities, when trees are dominant they are a relatively high evapotranspiration component of the water budget (Roundy et al. 1999) and high exposure of surface soils between trees that provide of major sources of runoff and erosion. Research has shown that in the southwest much of the erosion in these systems occurs in mid-summer during the monsoons and mid-winter with snow melt (Wilcox 1994). Shallow soils between tree canopy areas are wetter than in areas where canopies receive less precipitation due to interception (Breshears 1993). Pinyon and juniper trees deplete soil moisture in intercanopy areas as they transpire more in the winter. The lack of water and nutrient availability from tree-root exploitation of interspaces can result in eventual mortality of understory vegetation in absence of fire or other tree killing disturbances (Breshears et al 1997). Manipulating vegetation that is deep rooted and uses more water (ie pinyon and juniper) allows more water to percolate through the soil and enter ground water and streams (Hibbert 1983). Additionally, removing the trees opens the interspaces and allows for more water availability to other vegetative species that would typically dominate the site.

Because much of the work is associated with old chainings there will be almost 100% removal of pinyon and juniper trees from the site. Through monitoring our objects are to see an increase of native plant diversity, at least a 70% change in the species composition and cover and a 50% change in the soil surface gaps, which is an indicator for wind and water erosion risk, water infiltration and the exotic plant invasion risk. We would like to see and increase of 20-25% in shrub cover and 20-30% increase in grasses and forbs.

Threats / Risks:

Continued decline in watershed function associated with pinyon/juniper encroachment and closed canopy forest leading to increased erosion, high fire potential and overall loss of critical habitat. By thinning trees the risk of large fires will decrease, understory vegetation recruitment can occur and there will be an overall improvement in habitat. Phase I of this project have already shown a vast improvement in the overall increase in plant cover and diversity and a decrease in erosion.

Relation To Management Plan:

See Attached

Fire / Fuels:

N/A

Water Quality/Quantity:

N/A

Compliance:

2 PM Archaeology, Clearances will be complete before work begins, Dec 31 2014 / 6 NEPA, NEPA was completed in 2012, Dec 17 2014

Methods:

A bullhog will be used to thin pinyon trees with a dbh of 18 inches or less and juniper trees with a dbh of 22 inches or less. Treatments would occur in the early spring or late fall. Archeological clearance will continue to occur for future units.

Monitoring:

The BLM has several long term trend monitoring site on the plateau. We will additionally set up vegetation monitoring transects in the treatment areas. We have been monitoring density, frequency, cover, and fuel loading. We will also work closely with Utah Division of Wildlife range trend crew to monitor vegetation and with DWR biologists for monitoring mule deer and elk use of these areas.

Partners:

N/A

Future Management:

We are coordinating with the permittee on developing better grazing plans and will continue to monitor and identify future treatment areas. We will continue to work with the UT DWR to help meet the goals and objectives within the elk and mule deer management plans and the unit management plans.

Domestic Livestock Benefit:

N/A

BUDGET	WRI/DWR	Other	Budget Total	In-Kind Total	Grand Total
	\$329,745.00	\$18,000.00	\$347,745.00	\$0.00	\$347,745.00

Item	Description	WRI	Other	In-Kind	Year
Personal Services (permanent employee)	BLM employee contract and project oversight. Includes on site visits and travel.	\$0.00	\$10,000.0	\$0.00	2016
Personal Services (permanent employee)	BLM archeologist contract and survey oversight. Includes site visit travel.	\$0.00	\$8,000.00	\$0.00	2000
Contractual Services	Bullhog work for 787 acres at \$360/ac	\$283,320.	\$0.00	\$0.00	2016
Archaeological Clearance	Survey for 787 acres at \$25/ac	\$19,675.0	\$0.00	\$0.00	2016
Archaeological Clearance	Arch clearance for future (2016) 1,070 acres @ \$25	\$26,750.0	\$0.00	\$0.00	2016

FUNDING	WRI/DWR	Other	Funding Total	In-Kind Total	Grand Total
	\$329,745.00	\$18,000.00	\$347,745.00	\$0.00	\$347,745.00

Source	Phase	Description	Amount	Other	In-Kind	Year
Safari Club International	NS652	N/A	\$2,000.00	\$0.00	\$0.00	2016
Federal Aid (PR)	F1659	N/A	\$200,000.	\$0.00	\$0.00	2016
BLM	N/A	N/A	\$0.00	\$18,000.0	\$0.00	2016
Habitat Council Account	N/A	N/A	\$98,245.0	\$0.00	\$0.00	2016

Allocation	Percent of Total
Big Game	100%
Upland Game	0%
Waterfowl	0%
Sport Fish	0%
Nongame Fish	0%

Source	Phase	Description	Amount	Other	In-Kind	Year
Allocation			Percent of Total			
Nongame Wildlife			0%			
MDF	NS652	N/A	\$5,000.00	\$0.00	\$0.00	2016
MDF Expo Permit	NS655	N/A	\$5,000.00	\$0.00	\$0.00	2016
RMEF	NS652	N/A	\$2,500.00	\$0.00	\$0.00	2016
SFW	NS652	N/A	\$10,000.0	\$0.00	\$0.00	2016
FNAWS	NS652	N/A	\$5,000.00	\$0.00	\$0.00	2016
Utah Bowman's Association	NS655	N/A	\$2,000.00	\$0.00	\$0.00	2016

EXPENSE	WRI/DWR	Other	Expense Total	In-Kind Total	Grand Total
	\$51,300.01	\$0.00	\$51,300.01	\$0.00	\$51,300.01

Source	Phase	Description	Amount	Other	In-Kind	Year
Safari Club International	NS652		\$810.54	\$0.00	\$0.00	2016
Federal Aid (PR)	F1659		\$38,475.0	\$0.00	\$0.00	2016
BLM	N/A	N/A	\$0.00	\$0.00	\$0.00	
Habitat Council Account	N/A	N/A	\$0.00	\$0.00	\$0.00	

Allocation			Percent of Total			
Big Game			100%			
Upland Game			0%			
Waterfowl			0%			
Sport Fish			0%			
Nongame Fish			0%			
Nongame Wildlife			0%			
MDF	NS652		\$2,036.61	\$0.00	\$0.00	2016
MDF Expo Permit	NS655		\$2,036.61	\$0.00	\$0.00	2016
RMEF	NS652		\$1,015.75	\$0.00	\$0.00	2016
SFW	NS652		\$4,073.22	\$0.00	\$0.00	2016
FNAWS	NS652		\$2,036.61	\$0.00	\$0.00	2016
Utah Bowman's Association	NS655		\$815.67	\$0.00	\$0.00	2016

SPECIES		
Species	"N" Rank	HIG/F Rank
Mule Deer		1
Threat		Impact
No Threat		NA
Elk		2
Threat		Impact
No Threat		NA
Allen's Big-eared Bat	N3	N/A
Threat		Impact

Species	"N" Rank	HIG/F Rank
Threat		Impact
No Threat		NA

HABITATS

PROJECT COMMENTS

Comment 01/08/2015 Type: Project Commenter Nathan Kota

Hi Mandy. This is just a test to make sure the comments section is working on your proposal. Some of your regional team members were unable to post comments to this, and your other, proposals. -Nathan Kota (WRI web application administrator)

Comment 01/08/2015 Type: Project Commenter Makeda Hanson

I suggest looking at some other pinyon-juniper projects to increase your points. The water quality/quantity section could be improved. Nicole Nielson and Pam Riddle have both identified how their pj projects will improve water quality/quantity. I also suggest adding more information to your future management section. Nicole Nielson seems to do a pretty good job at this. She talks about how the DWR has herd unit management plans that help us to control wildlife populations so they don't end up overutilizing the area. Which is similar to grazing management plans. I would look to her projects for some examples.

I also suggest trying to identify something more measurable in your objectives. Maybe just some estimates of percent cover of sagebrush desired, or anticipated forage production, or something along those lines. Measurable objectives are one of the questions on the first page of the ranking sheet. If yes isn't marked in this section, your project may not move forward

Comment 01/13/2015 Type: Project Commenter Alan Clark

Mandy, what stage would you say the conifer encroachment is in the area to be treated. I see there is no need to seed. The photo you attached from Phase I looks great.

Comment 01/13/2015 Type: Project Commenter Mandy Scott

In many of the areas it is between stage 2 and 3 where there is between 25-35% pj cover, 2-20% shrub cover 2-15% grasses and 30-50% bare ground. We decided not to seed because there was enough perennial grass available in adjacent areas and the higher elevation we thought it would come back on its own. The results from Phase 1 have shown that it is successful without seeding.

COMPLETION

Start Date:

End Date:

FY Implemented:

2016

FY Completed:

Final Methods:

N/A

Project Narrative:

N/A

Future Management:
N/A

Map Features

ID	Feature Category	Action	Treatment/Type
3095	Terrestrial Treatment Area	Bullhog	Full size

